DOCUMENT RESUME

ED 473 879 JC 030 148

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TITLE	College of the Canyons Tutoring/Learning/Computer Center Retention and Success, Spring 2001. Report.
INSTITUTION	College of the Canyons, Santa Clarita, CA. Office of Institutional Development.
REPORT NO	R-106
PUB DATE	2001-06-07
NOTE	15p.
PUB TYPE	Reports - Research (143)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	*Academic Achievement; *Community Colleges; Comparative Analysis; Program Effectiveness; *Remedial Instruction; *School Holding Power; *Tutorial Programs; *Tutors; Two Year Colleges
IDENTIFIERS	*College of the Canyons CA

ABSTRACT

This report, prepared by the College of the Canyon's Office of Institutional Development and Technology, was part of the Tutoring/Learning/Computer (TLC) Center's self-review process. It assesses the impact of tutoring services on student success. Student success is defined as the retention and success rates of students. Further, retention is described as completing a course (not withdrawing), and success is the percentage of students passing a class with a "C" or better for credit. The data used for the study came from two sources: the first data file was from the TLC, and the second came from the California Community College Chancellor's Office referential file for enrollments. The methods employed were simple descriptive statistics. The study analyzed data delimited to tutoring services rather than the broader array of services. The report indicated that students who received tutoring outperformed students who did not, regardless of the amount of tutoring they received and the measure of success (retention and success rates). These differences were attributable to several factors, including motivational differences among students. Additionally, the results indicated that students being tutored are more likely to succeed than other students, negating any claims that students being tutored are less capable. (ND)

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Tutoring/Learning/Computer Center Retention & Success Spring 2001

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June 7, 2001

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TLC Retention and Success
Spring 2001

Executive Summary

To inform the Tutoring/Learning/Computer (TLC) center's self-review process, the Office of Institutional Development and Technology prepared this report, assessing the impact of tutoring services on student success. Student success was operationalized as retention and success rates of students. Retention is defined as completing a course (not withdrawing) and success is defined as the percentage of students passing a class with a "C" or better or credit.

The TLC provided tutoring to 1,805 students in Fall 2000. As students often receive more than one tutoring contact, the total number of tutoring contacts was 9,482. Tutoring is provided for courses in most departments. However, Math and English courses are the most frequently tutored areas.

Figures 1 and 2 illustrate findings from the analyses of both the retention and success rates broken down by the number of visits and the number of hours tutored, for both the Spring 2000 and Fall 2000 semesters. As depicted in Figure 1, between 70 and 77 percent of students receiving tutoring were successful, compared to 61 percent of students not receiving tutoring. Figure 2 depicts a similar relationship for Fall 2000 (compared to Spring 2000), except tutoring contacts are broken down by the amount of time tutoring is received rather than number of contacts. In both of these analyses and all other analyses contained in the full report, there were statistically significant relationships between the number of hours or visits and students' retention and success in courses ($p < .05$). As is evidenced by the figures, the differences are primarily between those who receive tutoring and those who don't, rather than the amount of tutoring received.

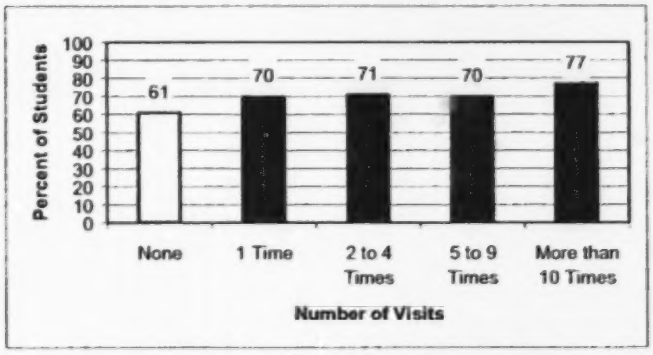

Figure 1. Spring 2000 success rates by number of TLC visits

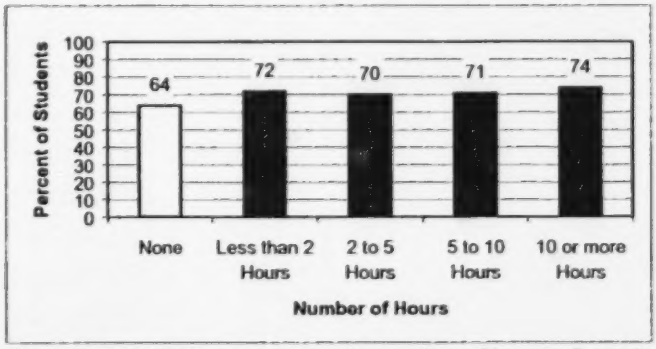

Figure 2. Fall 2000 success rates by number of hours of tutoring

In all analyses, students engaged in tutoring outperform students not receiving tutoring, regardless of the amount of tutoring they received and the measure of success (retention and success rates). These differences could be attributable to several factors, including motivational differences in students. However, the results are necessary to support conclusions that tutoring services do improve success. Furthermore, results indicate that students pursuing tutoring are more likely to succeed than other students, negating any claims that students pursuing tutoring are less capable of success.

Table of Contents

Introduction 2
Methods 2
Major Findings 3
Conclusions 11

Introduction

To inform the Tutoring/Learning/Computer (TLC) Center's self-review process, the Office of Institutional Development and Technology prepared a report addressing the impact of tutoring services on student retention and success. The analyses were delimited to tutoring services, rather than the broader array of services, which includes services related to computer use. Since students pursue a variety of different amounts of tutoring and the impact will likely vary by amount of services received, retention and success rates of students were assessed for amount of tutoring as well as whether or not students received any tutoring services.

Methods

Two data sources were used for this study. The first data file was obtained from TLC. In this file, each tutoring contact was identified, including the type of contact (tutoring, computer use, and both tutoring and computer use), course for which tutoring was provided, and length of tutoring contact. Data for both Spring 2000 and Fall 2000 were used.

The second type of data file was the California Community College Chancellor's Office referential file for enrollments (referred to as the "USX file"). This file contains information on the enrollments of each student in a given term, including the grade ultimately received.

The two files were matched based on student identification number and course for which tutoring was received. Simple descriptive statistics were computed. Additionally, the relationship between amount of tutoring (number of visits and number of hours) with retention and success rates was assessed. Retention is defined as completing a course (not withdrawing). Success rates are defined as the percentage of students passing a class with a "C" or better or credit. Students who drop prior to the dropped deadline were not included in the analyses.

Major Findings

In the semester of Spring 2000, the TLC provided tutoring to 1,550 students. As students often seek more than one tutoring contact, the total number of tutoring contacts reported was 8,736. The number of students tutored and tutoring contact increased in the Fall 2000 to 1,805 students and 9,482 contacts. (Note that these are for tutoring services only. TLC provides other services, such as computer use, that are not included.)

Table 1 lists the number of students who go to the TLC by frequency of visits. In Fall 2000, about one third of students (36 percent) received tutoring services only once. The remaining two-thirds of the students received tutoring services between 2 and more than 40 times in the semester.

Table 1. Number of visits per student in Spring 2000 and Fall 2000

	Spring 2000	Fall 2000		Spring 2000	Fall 2000
Number of Visits	Number of Students	Number of Students	Number of Visits	Number of Students	Number of Students
1	603	649	21	3	9
2	253	307	22	12	5
3	154	176	23	5	3
4	94	120	24	2	7
5	62	83	25	3	1
6	58	67	26	6	5
7	43	69	27	6	2
8	25	38	28	2	3
9	27	35	29	2	3
10	23	37	30	2	4
11	17	23	31	4	4
12	15	24	32	2	2
13	14	14	33	3	2
14	17	15	34	1	4
15	16	14	35	2	4
16	8	12	36	1	
17	7	11	37	1	1
18	12	12	38	2	2
19	8	10	39	2	1
20	4	8	40 or more	29	19
					9
			Total	1550	1805

Tables 2 and 3 list the courses for which students receive the greatest amount of tutoring. English and Math courses top the list. In fact, in both the Spring and Fall semesters, there were more than 1000 tutoring contacts for Math 070 alone! Although the English and Math departments dominate the top of the most frequently tutoring list, tutoring services are provided for many other courses in most departments at the College.

Table 2. Courses most frequently tutored: Number of tutoring contacts per course during Spring 2000

	Dept	Course Number	Number of tutoring contacts		Dept	Course Number	Number of tutoring contacts
1.	MATH	070	1015	51.	BIOSCI	106	17
2.	MATH	103	938	52.	BIOSCI	221	16
3.	MATH	211	766	53.	ENGL	135	16
4.	ENGL	090	577	54.	NURSNG	204	16
5.	ENGL	101	514	55.	BUS	101	15
6.	ENGL	035	455	56.	BUS	104	15
7.	MATH	060	454	57.	CMPSCI	132	15
8.	MATH	057	262	58.	PHILOS	101	15
9.	MATH	140	240	59.	BUS	158	14
10.	CHEM	201	234	60.	BUS	177	14
11.	ENGL	034	196	61.	CMPSCI	111	14
12.	POLISC	150	193	62.	JOURN	100	14
13.	BUS	201	182	63.	ENGL	010	12
14.	MATH	025	170	64.	ECON	201	11
15.	MATH	213	161	65.	BIOSCI	250	10
16.	MATH	240	112	66.	CHEM	110	10
17.	BUS	202	108	67.	ENGL	261	10
18.	PSYCH	102	102	68.	PHYSIC	220	10
19.	OTHER		100	69.	FRNCH	102	9
20.	MATH	102	81	70.	BUS	107	8
21.	SPCOM	105	81	71.	BUS	110	8
22.	MATH	212	78	72.	BUS	180	8
23.	BUS	105	76	73.	NURSNG	101	8
24.	SPAN	102	76	74.	PERDEV	111	8
25.	ENGL	102	73	75.	SOCI	101	8
26.	ENGL	080	71	76.	ART	110	7
27.	BUS	144	69	77.	CINEMA	125	7
28.	ESL	100	69	78.	PERDEV	010	7
29.	CHEM	151	59	79.	BUS	185	6
30.	ENGL	011	58	80.	ENGL	251	6
31.	SPAN	101	56	81.	HIST	210	6
32.	MATH	063	51	82.	CMPSCI	235	5
33.	BIOSCI	107	49	83.	ECON	202	5
34.	BUS	153	44	84.	ECON	291	5
35.	MATH	010	40	85.	FRNCH	101	5
36.	ESL	075	39	86.	NURSNG	156	5
37.	CINEMA	120	36	87.	PHILOS	205	5
38.	PSYCH	101	35	88.	RTVF	195	5
39.	HIST	150	33	89.	ART	111	4
40.	MATH	215	31	90.	LMTECH	106	4
41.	CHLDEV	115	29	91.	MATH	214	4
42.	BIOSCI	205	26	92.	PSYCH	172	4
43.	BUS	165	26	93.	SOCI	207	4
44.	BUS	106	24	94.	BIOSCI	130	3
45.	MATH	130	24	95.	BUS	152	3
46.	CHEM	202	23	96.	BUS	170	3
47.	CHLDEV	116	22	97.	CHLDEV	110	3
48.	ESL	080	21	98.	CMPELC	154	3
49.	ENGL	103	20	99.	HLHSCI	151	3
50.	PHYSIC	221	20	100.	NURSNG	103	3

Table 3. Courses most frequently tutored: Number of tutoring contacts per course during Fall 2000

	Dept	Course Number	Number of tutoring contacts		Dept	Course Number	Number of tutoring contacts
1.	MATH	070	1122	51.	PSYCH	102	21
2.	ENGL	090	706	52.	ESL	070	20
3.	MATH	103	656	53.	BIOSCI	204	19
4.	MATH	060	601	54.	HIST	111	19
5.	MATH	140	601	55.	BIOSCI	106	15
6.	ENGL	035	600	56.	BUS	211	15
7.	ENGL	101	390	57.	ESL	080	15
8.	MATH	057	378	58.	NURSNG	150	15
9.	MATH	211	375	59.	CMPSCI	111	14
10.	MATH	212	323	60.	HIST	245	14
11.	MATH	025	293	61.	MATH	010	14
12.	OTHER		272	62.	BUS	100	13
13.	BUS	144	216	63.	SOCI	101	13
14.	MATH	102	196	64.	NURSNG	151	11
15.	ENGL	034	189	65.	NURSNG	204	11
16.	BUS	201	178	66.	SPAN	201	11
17.	ENGL	102	130	67.	GEOG	101	10
18.	MATH	240	124	68.	GERMAN	101	9
19.	CHEM	151	116	69.	NURSNG	202	9
20.	POLISC	150	115	70.	PHILOS	205	9
21.	NURSNG	101	96	71.	CHEM	110	8
22.	MATH	214	85	72.	CINEMA	122	8
23.	PERDEV	111	74	73.	HIST	112	8
24.	SPCOM	105	72	74.	IDS	100	8
25.	BIOSCI	107	67	75.	ANTHRO	101	7
26.	NURSNG	200	67	76.	ECON	291	7
27.	CHEM	201	63	77.	ENGL	095	7
28.	BUS	202	60	78.	PHILOS	101	7
29.	MATH	059	51	79.	CINEMA	120	6
30.	PHYSIC	110	49	80.	CMPSCI	132	6
31.	ENGL	080	47	81.	JOURN	100	6
32.	HIST	150	41	82.	POLISC	270	6
33.	SPAN	101	40	83.	SOCI	200	6
34.	SPAN	102	39	84.	BIOSCI	230	5
35.	MATH	213	38	85.	PERDEV	060	5
36.	BIOSCI	221	37	86.	CMPSCI	235	4
37.	ECON	201	37	87.	ECON	202	4
38.	WELD		37	88.	ENGL	260	4
39.	ESL	100	35	89.	ESL	075	4
40.	MATH	063	34	90.	FRNCH	101	4
41.	PSYCH	101	34	91.	HIST	240	4
42.	ENGL	103	33	92.	PHOTO	260	4
43.	ENGL	010	32	93.	PHYSED	100	4
44.	ENGL	250	32	94.	PSYCH	172	4
45.	MATH	026	31	95.	BUS	103	3
46.	NURSNG	102	29	96.	CHLDEV	175	3
47.	SPAN	150	29	97.	CMPELC	141	3
48.	ENGL	011	24	98.	CMPSCI	236	3
49.	MATH	130	24	99.	ESL	060	3
50.	PHYSIC	220	24	100.	HIST	101	3

Figures 1 through 8 contain information on the retention and success of students receiving tutoring services. Figures depict both the retention (completing a course) and success (passing a course with a "C" or better or credit) rates for both the Spring 2000 and Fall 2000 semesters, broken down by the number of visits and the number of hours tutored. In all instances there was a statistically significant relationship between the number of hours or visits and students' retention and success in courses ($p<.05$). As is evidenced by the Figures, the differences are primarily between those who receive tutoring and those who don't, rather than the amount of tutoring received.

Figure 1 contains the retention rates for Spring 2000, broken down by the number of tutoring visits received. The retention rate for students not receiving any tutoring was 86 percent. For students receiving tutoring, the retention rates ranged from 93 to 96 percent. (Note that in this analysis and others presented in this report, only courses in which at least one student received tutoring were included in the analyses to mitigate differential retention and success rates.)

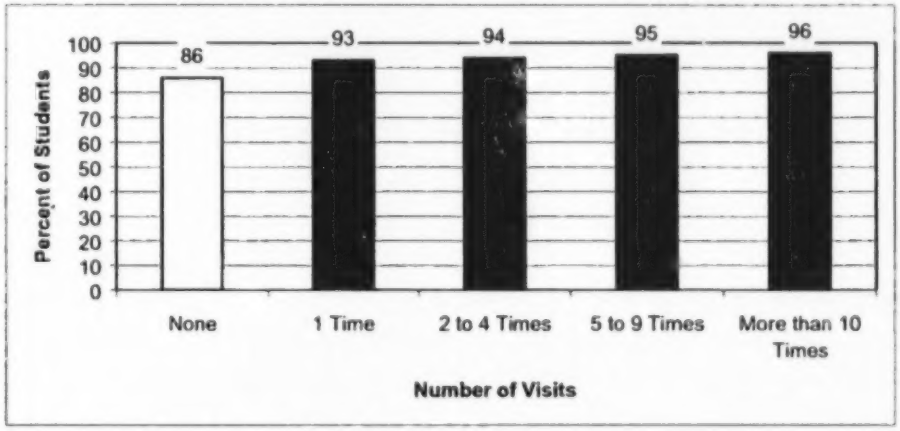

Figure 1. Spring 2000 retention rates by number of TLC visits

The success rates of students in Spring 2000 are depicted in Figure 2. Success is defined here as the percent of students passing the course with a grade of "C" or better or credit. Students receiving a "W" are included and counted as not successful. The success rate for students not receiving tutoring was 61 percent. Students receiving between one and ten tutoring sessions had success rates between 70 and 71 percent. Students receiving tutoring more than 10 times had a success rate of 77 percent, *16 percent higher than students not receiving tutoring!*

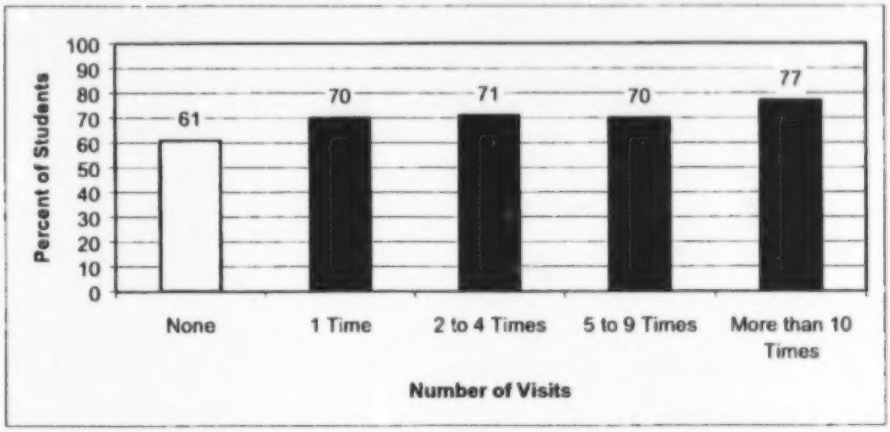

Figure 2. Spring 2000 success rates by number of TLC visits

In addition to the number of visits, retention rates were also computed by the number of hours students received tutoring (see Figure 3). Results were similar to the number of visits. Students who were tutored from less than 2 hours to more than ten hours had retention rates between 93 and 95 percent.

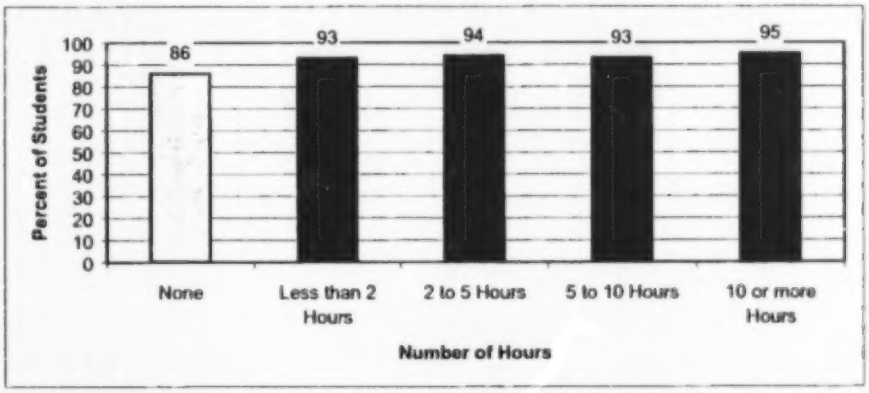

Figure 3. Spring 2000 retention rates by number of hours of tutoring

Students who received between less than two hours and more than 10 hours of tutoring had success rates between 68 and 72 percent, compared to 62 percent for students not receiving tutoring. (Figure 4)

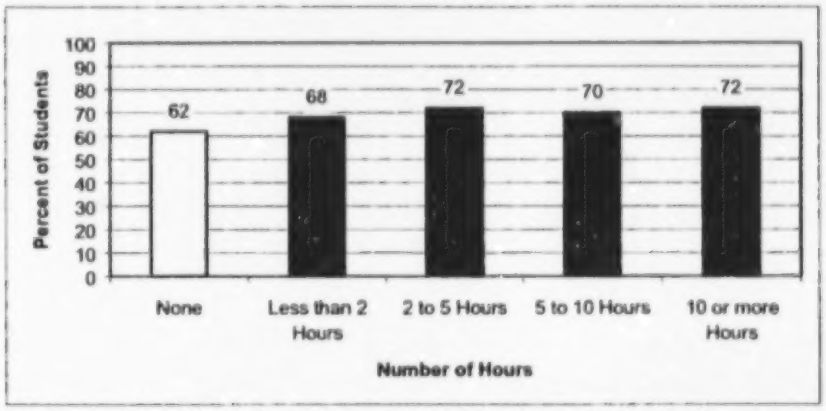

Figure 4. Spring 2000 success rates by number of hours of tutoring

The analyses were repeated for Fall 2000 students. Similarly to Spring 2000, in Fall 2000 students who received tutoring had greater retention rates. As demonstrated in Figure 5, the greatest difference was between students who received more than ten tutoring sessions and students not receiving any tutoring, an 11 percent difference.

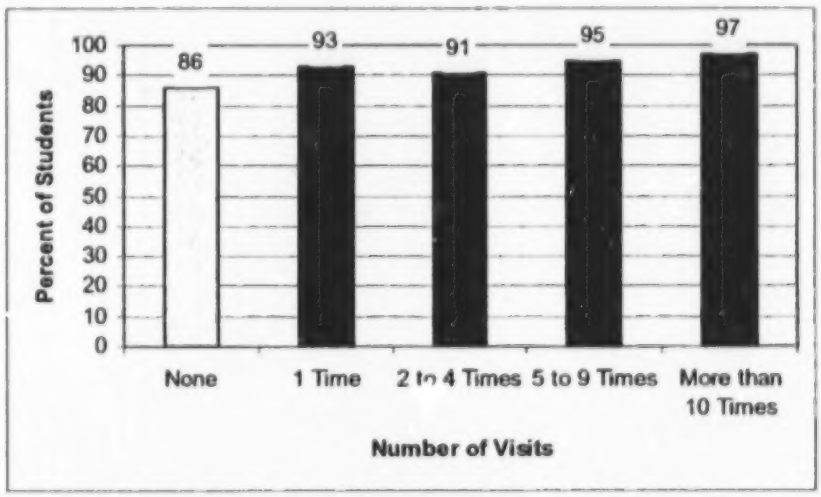

Figure 5. Fall 2000 retention rates by number of TLC visits

Similarly, the success rates for Fall 2000 were greater for students engaging tutoring compared to students not engaging tutoring (see Figure 6). The differences were greatest for students participating in more than 10 tutoring sessions and students receiving no tutoring, an 11 percent difference in success rates.

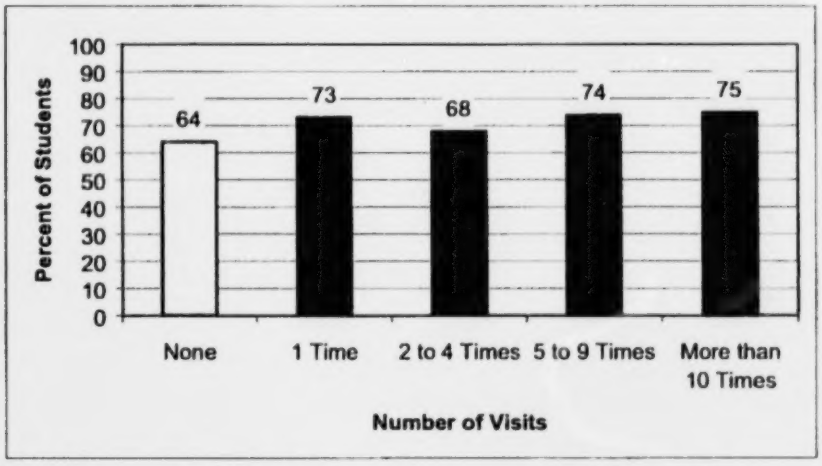

Figure 6. Fall 2000 success rates by number of TLC visits

Figures 7 and 8 depict similar relationships to those in Figures 5 and 6. Students participating in more hours of tutoring outperform students not participating in tutoring.

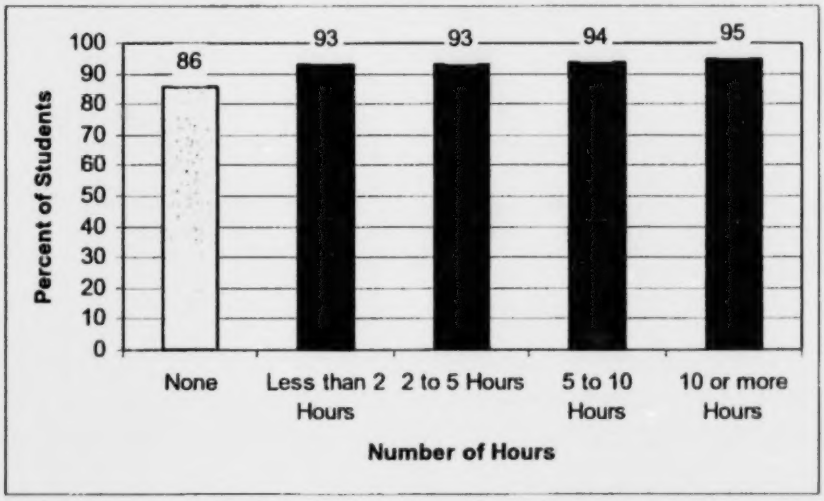

Figure 7. Fall 2000 retention rates by number of hours of tutoring

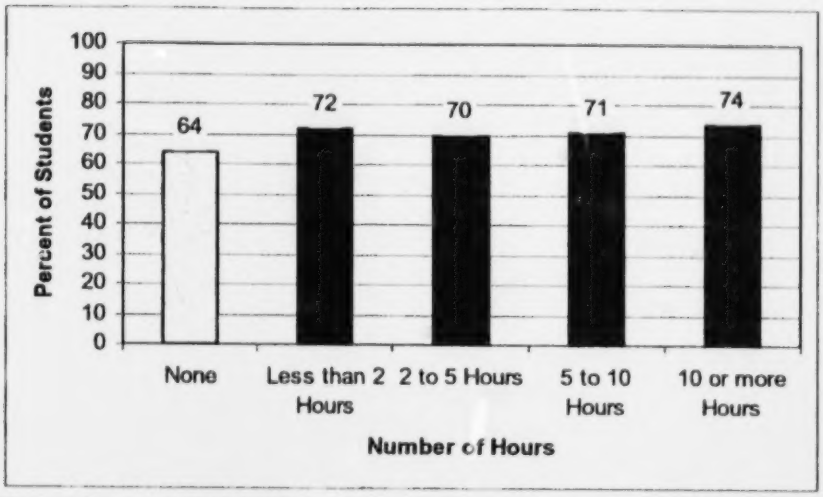

Figure 8. Fall 2000 success rates by number of hours of tutoring

Conclusions

This study assessed the relationship between the amount of tutoring received and the student retention and success for the Spring and Fall of 2000. The amount of tutoring was operationally defined as both the number of tutoring contacts and number of hours of tutoring a student received. Student success was defined both as retention (completing the course) and success (passing the course with a grade of "C" or better or credit).

In all analyses, students who participated in tutoring outperformed students did not, regardless of the amount of tutoring they received and the measure of success (retention and success rates). These differences could be attributable to several factors, including motivational differences in students. However, the results are necessary to support conclusions that tutoring services do improve success. Furthermore, results indicate that students pursuing tutoring are more likely to succeed than other students, negating any claims that students pursuing tutoring are less capable.

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